Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An apparatus, comprising:

a memory unit to store input data for a plurality of functions;

a control unit to control execution of said plurality of functions, said control unit having a trigger queue to store function identifiers, said control unit to select a function to execute using a function identifier from said trigger queue;

a plurality of execution units operatively responsive to said control unit, said execution units to receive input data from said memory unit, and use said input data to execute a function corresponding to said function identifier; ~~and~~

trigger logic to determine when a sufficient amount of input data for a function has been stored in said memory unit and send a triggered function identifier to said ~~control unit~~ trigger queue when a sufficient amount of input data for [[a]] said function has been stored in said memory unit; and

said trigger queue to receive said triggered function identifier and a trigger write signal from said trigger logic, wherein said triggered function identifier is written to said trigger queue in response to said trigger write signal.

2. (Canceled).

3. (Previously Presented) The apparatus of claim 1, wherein said trigger logic sends a trigger write signal to said control unit with said triggered function identifier.

4. (Original) The apparatus of claim 3, wherein said control unit receives said triggered function identifier and trigger write signal, and writes said triggered function identifier in said trigger queue.

5. (Original) The apparatus of claim 4, wherein said control unit comprises:

a control unit state machine module to be configured in accordance with a fuse map, said control unit state machine to output an operation number address; and

a control unit lookup table to be configured with table content data, said control unit lookup table to convert said operation number address to a reconfigurator vector, said reconfigurator vector to control execution of said function by said execution units.

6. (Original) The apparatus of claim 5, wherein said trigger queue receives a trigger read signal as input, said trigger queue to send said function identifier to said control state machine module in response to said trigger read signal.

7. (Original) The apparatus of claim 6, wherein said control unit further comprises:

an inner loop counter to count a number of repetitions of instructions in an inner loop, said inner loop counter to output an inner terminal count signal;

an outer loop counter to count a number of repetitions of instructions in an outer loop, said outer loop counter to output an outer terminal count signal; and

a register file module to store a state for one function while another function is being executed by said execution units.

8. (Original) The apparatus of claim 7, wherein said control unit state machine module receives as inputs said inner terminal count signal, said outer terminal count signal, said function identifier, a current state index value, and register status values from said execution units, and uses said inputs to generate said operation number address.

9. (Currently Amended) A system, comprising:

an antenna;

a host processing system; and

a reconfigurable communication architecture module having a filter micro-code accelerator processing engine, said processing engine comprising:

a memory unit to store input data for a plurality of functions,[[;]]

a control unit to control execution of said plurality of functions, said control unit having a trigger queue to store function identifiers, said control unit to select a function to execute using a function identifier from said trigger queue,[[;]]

a plurality of execution units operatively responsive to said control unit, said execution units to receive input data from said memory unit, and use said input data to execute a function corresponding to said function identifier; ~~and~~

trigger logic to determine when a sufficient amount of input data for a function has been stored in said memory unit and send a triggered function identifier to said ~~control unit~~ trigger queue when a sufficient amount of input data for [[a]] said function has been stored in said memory unit, and

said trigger queue to receive said triggered function identifier and a trigger write signal from said trigger logic, wherein said triggered function identifier is written to said trigger queue in response to said trigger write signal.

10. (Canceled).

11. (Previously Presented) The system of claim 9, wherein said trigger logic sends a trigger write signal to said control unit with said triggered function identifier.

12. (Original) The system of claim 11, wherein said control unit receives said triggered function identifier and trigger write signal, and writes said triggered function identifier in said trigger queue.

13. (Original) The system of claim 12, wherein said control unit comprises:

a control unit state machine module to be configured in accordance with a fuse map, said control unit state machine to output an operation number address; and

a control unit lookup table to be configured with table content data, said control unit lookup table to convert said operation number address to a reconfigurator vector, said reconfigurator vector to control execution of said function by said execution units.

14. (Original) The system of claim 13, wherein said trigger queue receives a trigger read signal as input, said trigger queue to send said function identifier to said control state machine module in response to said trigger read signal.

15. (Currently Amended) A method, comprising:

receiving a first signal indicating input data for a function has been received;

sending a triggered function identifier and trigger write signal to a trigger queue when a sufficient amount of input data for [[a]] said function has been stored in a memory unit;

receiving said triggered function identifier and trigger write signal at said trigger queue; and

writing said triggered function identifier in said trigger queue in response to said trigger write signal.

16. (Original) The method of claim 15, further comprising:

receiving a trigger read signal at said trigger queue; and

sending a function identifier for a function to a control unit in response to said trigger read signal.

17. (Original) The method of claim 16, further comprising:

receiving said function identifier for a function from said trigger queue;

generating a reconfigurator vector using said function identifier;

sending a data select signal to a data selector to read input data from an input buffer in accordance with said reconfigurator vector; and

sending function control signals to a plurality of execution units to process said input data in accordance with said reconfigurator vector.

18. (Original) The method of claim 17, wherein said generating comprises:

receiving as inputs an inner terminal count signal, an outer terminal count signal, said function identifier, a current state index value, and register status values from said execution units, at said control unit state machine;

generating an operation number address using said inputs;

converting said operation number address to a reconfigurator vector, said reconfigurator vector to control execution of said function by said execution units.

19. (Currently Amended) An article comprising:

a storage medium;

said storage medium including stored instructions that, when executed by a processor, result in receiving a first signal indicating input data for a function has been received, sending a triggered function identifier and trigger write signal to a trigger queue when a sufficient amount of input data for [[a]] the function has been stored in a memory unit, receiving said triggered function identifier and trigger write signal at said trigger queue, and writing said triggered function identifier in said trigger queue in response to said trigger write signal.

20. (Original) The article of claim 19, wherein the stored instructions, when executed by a processor, further result in receiving a trigger read signal at said trigger queue, and sending a function identifier for a function to a control unit in response to said trigger read signal.

21. (Original) The article of claim 20, wherein the stored instructions, when executed by a processor, further result in receiving said function identifier for a function from a function list, generating a reconfigurator vector using said function identifier, sending a data select signal to a data selector to read input data from an input buffer in accordance

with said reconfigurator vector, and sending function control signals to a plurality of execution units to process said input data in accordance with said reconfigurator vector.